

In the Claims:

Claims 1 to 54 (Canceled).

1 55. (New) A wing with a changeable wing profile, the wing
2 comprising a leading edge region and a trailing edge region
3 opposite one another with respect to a wing chord
4 direction, a first cover skin and a second cover skin
5 spaced apart from one another by spars therebetween, a wing
6 tip region at an outboard end of the wing with respect to
7 a wingspan direction, and a flexible region by which the
8 wing tip region is connected with a remainder of the wing
9 and by which the wing profile of the flexible region is
10 adjustable in a direction that includes both a first
11 component in the wing chord direction and a second
12 component in the wingspan direction,

13 characterized in that

14 the flexible region comprises several longitudinally
15 extending torsion boxes that are arranged next to one
16 another and that are each respectively formed of the first
17 cover skin, the second cover skin and at least one of the
18 spars, and further comprising an adjusting mechanism
19 adapted to change a shape of the torsion boxes and
20 therewith of the wing profile in response to a
21 corresponding control signal,

22 wherein the wing tip region comprises an end piece
23 arranged and adapted to permit a compensation of a mutual

24 relative sliding displacement of the first cover skin
25 relative to the second cover skin with a change of a
26 curvature or camber of the flexible region due to the
27 change of the shape of the torsion boxes.

1 56. (New) The wing according to claim 55, characterized in that
2 the second cover skin is slidably supported against the end
3 piece, and further comprising a fastening arrangement by
4 which the second cover skin is held onto the end piece
5 while allowing a sliding displacement of the second cover
6 skin relative to the end piece.

1 57. (New) The wing according to claim 55, characterized in that
2 the flexible region extends from the leading edge region to
3 the trailing edge region of the wing.

1 58. (New) The wing according to claim 55, characterized in that
2 the leading edge region extends with a positive sweepback
3 angle relative to the wing chord direction, and that the
4 flexible region is arranged with the spars extending
5 longitudinally essentially perpendicularly to the leading
6 edge region.

1 59. (New) The wing according claim 55, characterized in that,
2 in the flexible region the camber of the wing is adjustable
3 while changing the curvature of the first cover skin and of
4 the second cover skin.

1 60. (New) The wing according to claim 55, characterized in that
2 the adjusting mechanism comprises at least one vertebra
3 body with a transmission element that is connected via a
4 pivot joint with the first cover skin, and that is
5 connected via a connection location to a drive line which
6 has a length that is changeable in response to the control
7 signal, wherein the connection location is vertically
8 spaced apart from the pivot joint, and due to a change of
9 the length of the drive line the drive line is adapted to
10 cause a rotation of the at least one vertebra body so as to
11 cause a change of the shape of the torsion boxes and
12 therewith of the wing profile.

1 61. (New) The wing according to claim 60, characterized in that
2 the at least one vertebra body comprises several vertebra
3 bodies arranged one behind another, and all of the vertebra
4 bodies are connected respectively with the one drive line.

1 62. (New) The wing according to claim 60, characterized in that
2 the at least one vertebra body and the at least one drive
3 line are arranged within the torsion boxes.

1 63. (New) The wing according to claim 60, characterized in that
2 the at least one vertebra body and the at least one drive
3 line are arranged outside of the torsion boxes.

1 64. (New) The wing according to claim 60, characterized in that
2 the pivot joint is an elastic joint, by which each said
3 transmission element is connected via elastic connections
4 with the first cover skin and with a respective one of the
5 spars.

1 65. (New) The wing according to claim 55, characterized in that
2 the flexible region comprises box elements elongated in a
3 longitudinal direction and forming the torsion boxes, which
4 are jointedly connected to one another on their
5 longitudinal sides in a prescribed degree via joint regions
6 and are provided between the first cover skin and the
7 second cover skin, whereby the box elements each
8 respectively comprise a transmission region extending
9 perpendicularly to the longitudinal direction of the box
10 element and connected with the first cover skin, and a
11 connection region spaced apart from the transmission region
12 in a vertical direction, and wherein the adjusting
13 mechanism is coupled with the respective connection region
14 of the respective box elements and is adapted to move the
15 box elements about the joint regions thereby causing a
16 change of the wing profile in response to the corresponding
17 control signal.

1 66. (New) The wing according to claim 65, characterized in that
2 the box elements each respectively have an essentially
3 triangular basic shape in cross-section, whereby the

4 transmission region is formed by a baseline of the
5 triangular basic shape and the connection region is formed
6 by a corner point of the triangular basic shape lying
7 opposite the baseline.

1 67. (New) The wing according to claim 65, characterized in that
2 the adjusting mechanism comprises a drive line which has a
3 length that is changeable and which is coupled with the
4 connection regions of the box elements, and due to a change
5 of the length of the drive line the drive line is adapted
6 to cause a rotation of the box elements so as to cause a
7 change of the shape of the wing profile.

1 68. (New) The wing according to claim 65, characterized in that
2 the box elements are arranged one behind another, and are
3 respectively coupled with a drive line.

1 69. (New) The wing according to claim 65, further comprising
2 pivot joints that are arranged and adapted to permit and
3 compensate a relative motion between the first cover skin
4 and the box elements, and that couple the transmission
5 regions of the box elements with the first cover skin.

1 70. (New) The wing according to claim 69, characterized in that
2 at least one of the joint regions or the pivot joints
3 comprise elastic joint elements.

1 71. (New) The wing according to claim 69, characterized in that
2 at least one of the joint regions or the pivot joints
3 comprise flexibly elastic bands.

1 72. (New) The wing according to claim 69, characterized in that
2 the joint regions and the pivot joints are respectively
3 incorporated together in respective common joints.

1 73. (New) The wing according to claim 72, characterized in that
2 each one of the common joints respectively comprises
3 flexibly elastic bands that respectively extend in
4 extension of shanks of the box elements, and that are
5 secured at a first end thereof to the box elements at one
6 side thereof, and that cross over one another, and wherein
7 a second end of the flexibly elastic bands is secured on
8 the first cover skin of the wing.

1 74. (New) The wing according to claim 73, further comprising a
2 filler piece consisting of an elastic material provided in
3 a space bounded by the first cover skin and the flexibly
4 elastic bands that cross one another.

1 75. (New) The wing according to claim 65, wherein the spars
2 comprise a spar element extending in a direction from the
3 first cover skin to the second cover skin and extending
4 with a longitudinal extension direction of the spar element
5 parallel to the longitudinal direction of the box elements,

6 and wherein a first end of the spar element is secured via
7 a first jointed connection directly or indirectly to the
8 first cover skin and a second end of the spar element
9 opposite the first end is connected via a second jointed
10 connection directly or indirectly to the second cover skin.

1 76. (New) The wing according to claim 75, characterized in that
2 at least one of the first jointed connection or the second
3 jointed connection comprises elastic bands.

1 77. (New) The wing according to claim 65, further comprising an
2 elastic band that couples the drive line with the
3 connection region of a respective one of the box elements.

1 78. (New) The wing according to claim 65, further comprising a
2 spacing holder provided between the first cover skin and
3 the second cover skin, by which spacing holder the cover
4 skins are held at a prescribed spacing distance apart from
5 one another and a relative motion between the cover skins
6 is permitted with changing of the wing profile.

1 79. (New) The wing according to claim 78, characterized in that
2 the spacing holder includes a roll shaped element and a
3 flexible band arrangement that is arranged and adapted to
4 guide a rolling motion of the roll shaped element between
5 the first cover skin and the second cover skin with a
6 relative motion between the first and second cover skins.

1 80. (New) The wing according to claim 79, characterized in that
2 the flexible band arrangement includes at least one
3 flexible band that is guided around the roll shaped element
4 and that has first and second ends thereof secured on the
5 first or second cover skin respectively.

1 81. (New) The wing according to claim 80, characterized in that
2 the roll shaped element is centrally divided by a central
3 passage, and in that the flexible band extends through the
4 central passage of the roll shaped element and while
5 reversing a wrapping direction the flexible band is wrapped
6 around the roll shaped element respectively halfway in
7 opposite directions.

1 82. (New) A wing comprising:

2 a wing body including and bounded between a leading
3 edge and a trailing edge;

4 a wing tip portion forming an outboard end of said
5 wing; and

6 a flexible wing portion interposed between and
7 connecting said wing tip portion and said wing body;

8 wherein:

9 said flexible wing portion comprises a flexible top
10 cover skin, a flexible bottom cover skin spaced apart from
11 said top cover skin, plural spars that extend
12 longitudinally perpendicular to said leading edge and

13 parallel to one another in a space between said top and
14 bottom cover skins, and plural vertebral adjusting
15 mechanisms that each respectively extend longitudinally in
16 a longitudinal direction parallel to said leading edge and
17 perpendicular to said spars;

18 each one of said vertebral adjusting mechanisms
19 comprises plural vertebra bodies that are respectively
20 interposed between successive ones of said spars in said
21 longitudinal direction and that are pivotably connected to
22 one another and to said spars, and a drive line that has an
23 actuator-driven variable length in said longitudinal
24 direction and that is connected to said vertebra bodies, so
25 that said vertebra bodies are respectively adapted to pivot
26 about pivot axes extending perpendicular to said leading
27 edge in response to a change of said variable length of
28 said drive line whereby a camber of said flexible wing
29 portion is variable.

[RESPONSE CONTINUES ON NEXT PAGE]